of at least an inch being 130. The wettest day at Greenwich in seventy-eight years was July 27, 1867, with 3·67 in., and the number of daily falls of at least an inch was 113.

A much more interesting comparison, however, is afforded by the tables relating to Adelaide in the south and to Port Darwin in the north. Darwin is 11° within the Tropics and Adelaide 11° outside, but while Darwin is on the coast, Adelaide is six miles from the nearest point of the sea. The mean height of the barometer, corrected to sea-level, is 0·225 in. (or nearly 8 millibars) higher at Adelaide than at Darwin, the extreme readings being at Adelaide 29·204 in. and 30·704 in., and at Darwin 29·017 in. and 30·151 in. The temperature contrasts are striking. The mean temperature at Darwin is 82·7° F., with a monthly mean daily range of 16·8°, and at Adelaide 63·0° F., with a mean range of 19·7°. Darwin, being a tropical station, has a range of only 8° F., or rather less, between the warmest and coldest months. Adelaide, on the other hand, has a corresponding range of 22½°. Again, the highest temperatures recorded at Adelaide were 116·3° in the shade and 180·0° in the sun; at Darwin, 104·9° in the shade and 168·5° in the sun. It is therefore not surprising to find that readings of at least 100° in the shade occur much oftener at Adelaide—13·5 per annum, as against 1·6 per annum at Darwin. It is otherwise with readings of at least 90° in the shade, where the annual numbers are 43·6 at Adelaide, and 237, or nearly two days out of three, at Darwin. The lowest reading at Darwin was 55·8°, and at Adelaide 32·0°, for air temperature. Terrestrial radiation readings are not given for Darwin, but a minimum of 22·9° occurred at Adelaide. Darwin also seems to be unprovided with a sunshine recorder, but at Adelaide the annual average is 2531·5 hours, a maximum of 2829·9 hours having been measured in 1898, in which year also the sunniest month occurred, 374 hours being recorded in January.

Many other matters besides rainfall are included in the main part of the volume, as indicated in the following list of tabulations: aurora, bush fires, drought, earthquakes, floods, fog-bows, frost, hail, heat waves, high tides, meteors, mirages, mock moon, plagues and pests and live-stock diseases, heavy rainfall, thunder and lightning, volcanic dust-clouds, water-spouts, hurricanes, cyclones, heavy gales, dust-storms, etc.

W. W. B.

NOTES.

WITH the assistance of the Air Ministry and the co-operation of Messrs. Vickers, Ltd., Lord Northcliffe has been able to arrange, on behalf of the *Times*, for an attempted flight from Cairo to Cape Town, a distance of more than five thousand miles. This journey from one end of the continent of Africa to the other, and traversing country the nature of a large part of which is little known, is of particular interest to the scientific world in view of the fact that Dr. P. Chalmers Mitchell, secretary of the Zoological Society of London, is taking part in it as passenger and observer. The enterprise will thus not only test the practicability of the air route from Cairo to the Cape, but also doubtless lead to valuable scientific observations being made during the flight. The aeroplane left England on January 24 and arrived in Cairo on February 3. The machine is a Vickers-Vimy commercial aeroplane similar to those used for the flights across the Atlantic and to Australia, and it carries a crew of four in addition to the passenger. Dr. Chalmers Mitchell is carrying an autograph letter from the King to Lord Buxton, Governor-General of South Africa, and we hope that he will be able to deliver it in twelve days or so after a successful end to what is a pioneer effort in scientific exploration from the air.

THE *Kew Bulletin* (1919, p. 399) records the appointment by the Government of South Africa of an Advisory Committee to carry out and supervise a Botanical Survey of the territories included in the Union. Dr. J. B. Pole-Evans, chief of the Division of Botany in the Department of Agriculture, will act as Director of the Survey, and he will be assisted by a small committee, including several prominent South African botanists and representatives of Government Departments interested. The objects of the survey are to continue and extend the work of the Division of Botany on the systematic study of the vegetation of the country and of the plant parasites of the indigenous vegetation; that of the Division of Veterinary Research on the relation of the vegetation to stock diseases; and that of the Forestry Department on the composition of the indigenous forests, the value of their products, and their industrial possibilities. Also to study the vegetation from the various points of view of industry, agriculture, and pastoral development; to study plant distribution and the influence of South African conditions on the structure and physiology of the native plants; and to compare and correlate the South African flora and its associated animal and plant diseases with those existing in other parts of the world under somewhat similar conditions. For the purpose of the survey the country will be divided into a convenient number of areas each under the control of a botanist, and a qualified assistant has been appointed at Kew to aid in the critical examination of the plants collected.

BY a melancholy coincidence the announcement of the appointment by the Egyptian Government of an International Commission to consider the proposals for the extension of irrigation works in Egypt and the Sudan is followed by the news from Bombay of the death of Sir Michael Nethersole, who had been selected for the chairmanship of the Commission, but had felt impelled to decline the offer by reason of the claims of his work in India. Born in 1859, Sir Michael passed in 1880 from the Royal Indian Engineering College at Coopers Hill into the Public Works Department, and, rising through the grade of executive engineer, he became in 1900 Chief Engineer and Secretary to Government in the United Provinces. In this position he remained for a dozen years until his appointment as Inspector-General of Irrigation in India. He retired in 1917 with a knighthood, having been created C.S.I. in 1914. Retirement from public service, however, was only followed by professional activity of another kind, and until his death Sir Michael occupied the position of chief hydro-electric engineer to the Tata Co. at Bombay, under the auspices of which he recently completed the tunnelling work for the Andhra Valley scheme of water-power.

WE regret to announce the death on February 1, in his seventy-ninth year, of Mr. C. E. Groves, F.R.S.

DR. W. McDOUGALL, Wilde reader in mental philosophy in the University of Oxford, has been elected president of the Society for Psychical Research, in succession to the late Lord Rayleigh.

SIR DANIEL HALL, K.C.B., F.R.S., Permanent Secretary of the Board of Agriculture, has been elected a member of the Athenæum Club under the rule which empowers the annual election by the committee of a certain number of persons "of distinguished eminence in science, literature, the arts, or for public service."

SIR NORMAN MOORE, president of the Royal College of Physicians, has appointed Dr. F. W. Andrewes to be Harveian orator and Dr. R. C. Wall to be Bradshaw lecturer for this year. The council has appointed Dr. Martin Flack to be Milroy lecturer for 1921, and the Censors' Board has awarded the Oliver-Sharpey prize for 1920 to Prof. Emil Roux, of the Pasteur Institute, Paris.

PROF. E. B. TITCHENER, Cornell University, Ithaca, N.Y., informs us that the prize of 100 dollars offered for the best paper on the availability of Pearson's formulæ for psychophysics (NATURE, vol. xcii., p. 508, January 1, 1914) has been awarded to Dr. Godfrey H. Thomson, of Armstrong College, Newcastle-upon-Tyne, for a paper entitled "On the Application of Pearson's Methods of Curve-fitting to the Problems of Psychophysics."

Symons's Meteorological Magazine came to an end with the January number, which completed vol. liv. This month it will appear as the *Meteorological Magazine,* with which the *Meteorological Office Circular* will be incorporated. In order to preserve the continuity, the new magazine will be issued as No. 1, vol. lv. The editors will be Mr. Carle Salter and Mr. F. J. W. Whipple. The change is the outcome of the British Rainfall Organisation becoming part of the service of the Meteorological Office.

THE death is announced, in his fifty-second year, of Mr. Robert Hollister Chapman, who had been connected with the U.S. Geological Survey since 1880, with the exception of the period from 1909 to 1912, during which he was engaged on topographical work in Canada. Mr. Chapman made extensive explorations in the principal Western and Southern States, and was the author of maps of Death Valley and adjacent deserts and of the high Sierras. He was secretary of the American Alpine Club. His published work includes many articles and bulletins on topographical subjects, and a book entitled "Personal Explorations in the Northern Selkirks."

THE Elizabeth Thompson Science Fund has been serviceable for many years in giving aid, by small grants, to research which otherwise might not be readily undertaken. The grants are made only for scientific investigations, and must be applied to actual expenses of the research, *i.e.* they are not made to support an investigator or to meet the ordinary expenses of publication. The trustees give preference to researches involving international co-operation. The grants are not made for researches of narrow or merely local interest, nor are they available for the equipment of private laboratories or for the purchase of apparatus ordinarily to be found in scientific institutions. Applications for grants from this fund should be made to Prof. W. B. Cannon, secretary of the trustees of the fund, Harvard Medical School, Boston, Mass.

THE Secretary of State for the Colonies has appointed a Committee to consider whether the staffs of the Veterinary Departments in the various Colonies and Protectorates are adequate, and, if necessary, to recommend increases of staff; to consider whether the rates of salary offered to the veterinary staff are adequate, and, if necessary, to suggest improvements; and to make recommendations for improving the arrangements for recruiting veterinary staffs for the Colonies and Protectorates. The members of the Committee are:—Sir Herbert Read, K.C.M.G., Assistant Under-Secretary, Colonial Office; Sir J. M'Fadyean, Principal of the Royal Veterinary College, London; Sir S. Stockman, Chief Veterinary Officer, Ministry of Agriculture; the President of the Royal College of Veterinary Surgeons; Prof. O. C. Bradley, Principal of the Royal (Dick) Veterinary College, Edinburgh; Prof. J. Share-Jones, Director of Veterinary Education and Professor of Veterinary Anatomy, University of Liverpool; and Major R. D. Furse, Assistant Private Secretary (Appointments), Colonial Office. Mr. A. Cooke, of the Colonial Office, is secretary of the Committee.

IN *Folk-lore* for December last (vol. xxx., No. 4) Dr. W. Crooke discusses the cults of the mother goddesses in India, in the hope that these may throw some light on their somewhat obscure sister goddesses in the West. The cult of Mother Earth prevails widely in India. Beginning with the type of a local fertility spirit of the village, she rapidly becomes anthropomorphised, and is supposed to enjoy a periodical rest after her labours, and to be strengthened for her benign offices by a sacred marriage with a male consort and by animal sacrifice. But in the Vedas and in the later Brahmanical Hinduism goddesses play only a subordinate part. It is among the Dravidians of Southern India that the goddess cult attains its highest development. The Earth Mother is no doubt the parent in India of many of the local goddesses, but it is going too far to assume, as some writers on the mythology of the West have done, that goddess-worship in general originated in the Earth Mother culture. Even in India many of the local goddesses come from the pre-agricultural stage, the Jungle Mothers, or they are the deified spirits of women who died in some heroic way.

LITTLE has hitherto been known about the Stone ages in Ceylon, but the first steps towards a solution of the problem have been taken in a paper by Mr. E. J. Wayland, late Assistant Mineral Surveyor to the Government of Ceylon, published in *Spolia Zeylanica* (vol. xi., part 41, 1919). In opposition to other authorities, Mr. Wayland believes that there is no evidence that the Veddas passed through a Stone-age phase in Ceylon; they are assumed to be immigrants from the Indian peninsula, and the Palæolithic age dates from a period long antecedent to their arrival in the island. The Ceylon implements fall into two groups, that of the hills and that of the lowlands. Pigmy flints are abundant, and the author believes that they were used mainly in boring bone needles. The Chellean type is represented by the hand-axe, the Mousterian by scrapers, and the Aurignacian by pointed implements with edge trimming. An important feature of this paper is the correlation of the various types with the local geological features. Mr. Wayland has given a good introductory sketch of the subject, and by means of his large collection, which, however, needs much addition, the problem of the Stone ages in Ceylon, where the material is abundant, seems to be approaching a solution.

WE welcome the reappearance of *The Mariner's Mirror,* the journal of the Society for Nautical Research. Mr. T. Sheppard contributes an article on the Hull whaling trade, once of great importance, from which the present great fish and oil trades may certainly be said to have developed. Mr. C. Pickering has made a fine collection of objects connected with the business, and presented a large museum devoted to the fishing industry. Mr. Sheppard in his article describes and illustrates many interesting exhibits—"flensers" for cutting the blubber into strips; the seal picks used by men working in masses of ice; a wrought-iron gun-harpoon bent by the speed with which the whale dragged the boat after it; one of the old explosive harpoons, known as Balchim's patent; and harpoons and gun-spears, with a collection of old guns. He also reprints an interesting journal describing the wreck of the whaler *Thornton,* which was lost in 1821. The city of Hull is honourably distinguished for the zeal and enterprise shown in the preservation of relics of its former industries.

DR. J. W. H. HARRISON has tested the effect of alcohol on a Geometrid moth, *Selenia bilunaria,* and finds the resulting offspring superior in many respects (*Journal of Genetics,* vol. ix., No. 1). In broods from treated parents the development was quicker, the mortality lower, and the mean weight of the pupæ greater. This is in agreement with Prof. Pearl's studies of the effects of alcohol on fowls, and is to be interpreted as the result of elimination of the weaker germs and individuals. The offspring from a cross between a treated male and an untreated female was superior to that from the reverse mating. Contrary to expectation, it was found that treatment with alcohol did not lead to the production of germinal variations.

IN a valuable discussion of phylogenetic degeneration in the ostrich (*Journal of Genetics,* vol. ix., No. 2), Prof. Duerden, who is in charge of ostrich-breeding investigations in South Africa, concludes that over its whole continental range this bird has long been undergoing progressive degenerative changes. The toes have undergone gradual reduction as in the horse, until of the original five only the third and a much reduced fourth remain. Even the third, which is the functional toe, shows signs of further reduction. Similar retrogressive tendencies are found in the structure of the wing and in many features of the plumage. These changes are looked upon as orthogenetic in nature, pursuing a continuous course independent of natural selection or adaptation, and certain to lead ultimately to the extinction of the species. In certain cases well-marked steps in variation are taken, as in the bald spot of the North African ostrich, which behaves as a Mendelian dominant character, and is believed to have originated as a mutation. On the other hand, reduction in the wing-coverts and in the scutellation of the toes is a more gradual process, occurring by a series of steps. Contrasted with this is the down of the legs, which begins to disappear when each chick is about six months old, and is thus an ontogenetic phenomenon. In all these cases it seems clear that the seat and origin of the change is in the germ-plasm. The point of view arrived at agrees in many respects with that of Whitman (see NATURE of January 29, p. 566) concerning orthogenetic evolution in pigeons.

THE first part of a "Flora Arabica," by Prof. Ethelbert Blatter, is issued as vol. viii., No. 1, of the Records of the Botanical Survey of India. Prof. Blatter's work on the Indian flora, and more recently on the flora of Aden, renders him especially well equipped for the systematic study of the botany of Arabia, and he has been able also to work through the rich collections at Kew and the British Museum (Natural History). He divides the area into four natural botanical regions—the extra-tropical west, the tropical west, the tropical east, and the extra-tropical east or Persian Gulf region. Part i. comprises a systematic list of thirty-eight families of dicotyledonous flowering plants, the arrangement adopted being that of Bentham and Hooker's "Genera Plantarum." The habitats and general distribution of each species are recorded, also the vernacular names and, where known, the uses of the plants. The chief elements of the flora are the Mediterranean and North African desert.

WE learn from the *Geographical Journal* for January (vol. lv., No. 1) that a new topographical map of New Zealand is in course of publication. The basis of the map is a triangulation, which already existed for cadastral surveys, supplemented by a secondary triangulation. The new map is on a scale of 1/125,000, with contours at 100-ft. intervals, and hill-shading in neutral tint. Roads, water, and wooded lands are shown in colour.

THE rainfall over England in 1919 was nearly everywhere in excess of the average, according to an article in *Symons's Meteorological Magazine* for January (vol. liv., No. 648). The excess was nowhere large, exceeding 10 per cent. only in scattered patches across the southern Midlands, and reaching 20 per cent. apparently only in parts of Leicestershire. North Wales had a 10 per cent. excess, but in South Wales the summer and autumn drought resulted in many places in a 10 per cent. deficiency. Parts of the east and north of Scotland, notably northern Aberdeenshire and the Orkneys, had more than the average fall, but in central and southern Scotland there was a deficiency culminating in 20 per cent. below the average in central Inverness-shire and Perthshire. Almost the whole of Ireland had less than the average rainfall, the deficiency being greatest in counties Cork, Galway, and Kerry, where it reached 20 per cent. below the mean. Taking the British Isles as a whole, the year, although by no means exceptional, was probably the driest since 1908—a result largely due to the shortage of rain in summer and autumn.

COL. J. TILHO announced some important discoveries in the Sahara in a paper read before the Royal Geographical Society on January 19. The Tibesti highlands prove to be an enormous triangular massif twice the area of Switzerland, with summits more than 10,000 ft. in height. Emi Kussi, the culminating point of the region, is the largest of a series of extinct volcanoes. This volcano has a well-formed crater, which in the past was occupied by a lake, but now has a thick deposit of sodium carbonate on the floor. The population of Tibesti is considerable, and is devoted to camel-rearing and brigandage. Col. Tilho claims to have disproved the possibility of former river connection between Lake Chad and the Nile. His explorations show an extension of the highlands formerly known to occur between the southern borders of Tripoli and Darfur. With regard to the economic development of the Sudan and the Sahara, Col. Tilho advocates an east-and-west transcontinental railway. That this would facilitate the pilgrimage to Mecca is an important consideration for great Mohammedan Powers like Britain and France.

DR. G. F. KUNZ, the well-known authority on the subject of jewelry in all its aspects, contributes to *Mineral Industry* (New York: McGraw-Hill Book Co., Inc.; London: Hill Publishing Co., Ltd., 1919, vol. xxvii., pp. 604–28) his customary chapter on the production of precious stones for the previous year. It may be remarked that this annual volume is written from the point of view of the United States. Rather more than two-thirds of this chapter is devoted to diamond, pre-eminently the precious stone. The jewelry trade is such a sensitive barometer of general trade conditions that we are not surprised to read that the incidence of heavy war expenses and the increase in taxation had sensibly checked the import of precious stones into the United States in the year 1918; the initial figures for 1919 show, however, that the setback was only temporary. We note that in the United States, just as in this country, successful attempts appear to have been made to develop the diamond-cutting industry. We are told that the output of gem material in the Rangoon district of Burma for the year 1917, which is the latest year dealt with, was of much higher value than that of the previous year, although the quantity produced was slightly less. The jade output in North Burma, which is wholly exported to China, where it is highly prized, remains as prosperous as ever. The United States does not produce much gem material, what there is being confined mainly to ruby, sapphire, turquoise, quartz, and tourmaline, although diamonds are being mined in Arkansas.

IN a paper on the factors controlling climate, which appears in the December, 1919, issue of the Journal of the Franklin Institute, Prof. W. J. Humphreys, of the United States Weather Bureau, discusses the theories which have been propounded to account for the existence in the past of "Ice ages," which, after enduring for a time, were succeeded by long periods during which the conditions were again normal. Solar variation, eccentricity of the earth's orbit, and carbon dioxide in the earth's atmosphere are shown not to be capable of affording satisfactory explanations, while the presence of volcanic dust in the atmosphere for any considerable period is proved to be capable of accounting for a fall of temperature of a few degrees Centigrade. The finest dust from Krakatoa probably reached an altitude of 40 to 80 km., and took nearly three years to fall through the isothermal layer of the atmosphere to the level of the upper clouds. If the coefficient of absorption of solar radiation by the dust is greater than its coefficient for terrestrial radiation, the value of the pyrheliometric constant will be diminished. The author shows that there is abundant evidence of this diminution after every considerable volcanic eruption.

AT the meeting of the Illuminating Engineering Society on January 27 a discussion on colour-matching by natural and artificial light took place. Mr. L. C. Martin, in opening the discussion, gave a summary of existing methods of producing artificial daylight. One of the most convenient devices has been the use of a special tinted glass transmission screen used with electric incandescent lamps to remove the excess of red and yellow rays. With the gas-filled lamp the efficiency of such units is considerably improved, 33 per cent. being claimed for a sunlight unit and 19 per cent. when light from the blue sky is imitated. A communication from Mr. M. Luckiesh, read later in the evening, showed how widely such units are being used in the United States. Mr. Martin exhibited the Sheringham daylight lamp, and explained that the overall efficiency of the blue-sky unit was not widely removed from that obtained with similar units using blue transmission screens. On the other hand, the diffusion of the light from the extensive coloured reflector surface used with the Sheringham lamp is considered a distinct advantage. Mr. Martin also showed some very striking colour changes in dyed fabrics seen successively under artificial daylight and light from a tungsten lamp. Mr. Bawtree exhibited a form of colorimeter for the analysis of colour, and Miss F. E. Baker, in showing the tintometer testing apparatus, also described some experiments on a new form of daylight lamp. A communication from Prof. Gardner, of Bradford Technical College, was also read. The production of artificial daylight is exciting keen attention, and several speakers emphasised the need for a systematic comparison of the various existing units and the establishment, if possible, of a standard of so-called "white" light.

WHILST the chemistry of gelatin has been investigated with much care, less attention has been given to that of glue. Both gelatin and glue are hydrolytic products of the collagen present in hides, but they represent different phases of the hydrolysis, and the details of the manufacture of glue have largely been kept secret. Crucial points are, first, the stage at which the process of hydrolysis must be stopped and the degree of concentration necessary in order to obtain a glue solution which will "set" to a jelly; and next, the method of drying this jelly into the finished glue. A low temperature has been considered necessary for successful drying, and also for avoiding bacterial action during the process. Hence the making of glue in warm countries, such as India, has hitherto not been found practicable. A paper by Mr. K. C. Srinivasan, of the Department of Industries, Madras ("The Manufacture of Glue in the Tropics"), describes how the foregoing points have been investigated by the Department, and the difficulties overcome. It is claimed that by a study of the chemical principles involved, and by laboratory and factory experiments, the details of manufacture have been successfully adapted to the climatic conditions prevailing even in the hottest parts of India.

MR. D. BROWNLIE gives some further exact data on the running of steam-boiler plants in *Engineering* for January 16. The subject dealt with is that of steam jets under or over the fire-bars, and out of the 250 typical steam-boiler plants examined no fewer than 93 plants, or 37 per cent., were fitted with steam jets. The makers of the various types of furnaces so fitted confess, as a rule, to a modest 1 to 3 per cent. of the steam production being used in the jets. Mr. Brownlie finds that the average steam consumption for the 93 plants is 5·6 per cent. of the total steam produced, and that the figure varied from 1 to 20 per cent. In the present article the results derived from 130 plants are considered, including 437 boilers both hand- and mechanically-fired. The averages are 6·6 per cent. for hand-firing and 6·7 per cent. for mechanical-firing. The lowest figure was 0·50 per cent., and the highest 21·4 per cent. If a given plant were taken in hand and scientific methods of control adopted, figures like 7½ to 15 per cent. of the steam production could be cut down to 3 or 4 per cent. with most types of steam-jet apparatus. Some of the apparatus in use is of crude and unscientific design, and incapable of giving good results. Mr. Brownlie estimates that a saving for the whole country of from 1,025,000 to 1,345,000 tons of coal per annum could be effected, partly by proper control and partly by getting rid of steam jets working under unsuitable conditions.

MESSRS. H. K. LEWIS AND CO., LTD., 136 Gower Street, W.C.1, have just issued a list of secondhand books (many of which are from their circulating library) in medicine and allied subjects which should be seen by all in search of books of this character at bargain prices. The reductions in many cases are very great. Messrs. Lewis have also sent us a list of the new books and new editions added to their medical and scientific circulating library during the months October to December last.

Messrs. Cassell and Co., Ltd., promise for February a book of travel by Sir Martin Conway entitled "Mountain Memories: A Pilgrimage of Romance," illustrated by the author. The new list of *Messrs. Constable and Co., Ltd.*, includes "Elementary Mathematics," H. E. J. Curzon; "Electric Welding and Welding Appliances," H. Carpmael (*Engineer* Library); "Paper-making and its Machinery," T. W. Chalmers (*Engineer* Library); "Calculation of Electrical Conductors," W. T. Taylor; "Low Grade and Waste Fuels for Power Generation," J. B. C. Kershaw; "Reinforced Concrete Diagrams," J. Williamson; "The Measurement of Steady and Fluctuating Temperatures," R. Royds; "Heat Transmission," R. Royds; "The Efficiency of Pumps and Ejectors," E. C. Bowden-Smith; "Oil-Firing for Kitchen Ranges," E. C. Bowden-Smith; "Storing," H. B. Twyford; "Public Health Chemical Analysis," R. C. Frederick and A. Forster; "Human Psychology," H. C. Warren; "Wild Creatures of Garden and Hedgerow," F. Pitt; and new editions of "The Propagation of Electric Currents in Telephone and Telegraph Conductors," Prof. J. A. Fleming; "The Theory of Electric Cables and Networks," Dr. A. Russell; and "Ship Form Resistance and Screw Propulsion," G. S. Baker.

THE February list of *Messrs. Longmans and Co.* contains announcements of many books relating to science and education. Among those not already alluded to in NATURE we notice "The Valuation of Mineral Property," Sir R. A. S. Redmayne and G. Stone; "Cement," B. Blount; "Plantation Rubber," G. S. Whitby; and "Margarine and Butter Substitutes," W. Clayton (Monographs on Industrial Chemistry); "The Principles and Designs of Printing Telegraph Systems and Mechanisms," H. H. Harrison; "Telephone Exchanges: Automatic Equipment," B. O. Anson; "Telephone Exchanges: Manual Equipment," H. S. Thompson; "Subscribers' Telephone Equipment," H. S. Thompson; "Overhead Construction," J. W. Atkinson; "Underground Construction," A. O. Gibbon; "Inland Telegraph and Submarine Cable Office Equipment," E. Lack; "Railway Telegraphs," C. W. Slingo; and "Testing of Lines, Apparatus, and Material," F. L. Henley (Manuals of Telegraph and Telephone Engineering); "Applied Naval Architecture," W. J. Lovett; "Industrial Administration," a series of lectures by B. S. Rowntree, T. H. Pear, A. E. Berriman, Dr. J. M. Legge, Prof. L. Hill, T. B. Johnstone, and St. George Heath; "Forage Crops in Denmark," H. Faber; "The Fireman's Handbook and Guide to Fuel Economy," C. F. Wade; "An Essay on Mediæval Economic Teaching," G. O'Brien; and a new edition, in two parts, of "Optical Projection: A Treatise on the Use of the Lantern in Exhibition and Scientific Demonstration," Lewis Wright, rewritten by his son, R. S. Wright, part 1, illustrated.